REMARKS

Claims 3-5 are pending in this application. By this Amendment, claims 1 and 2 are canceled without prejudice to, or disclaimer of, the subject matter therein. Claims 3-5 are added. Claims 3-5 recite the subject matter of claims 1 and 2. No new matter is introduced.

The Office Action objects to claim 1 under 35 U.S.C. §112 second paragraph. Claim 1 is canceled and claims 3-5 obviate this objection. Withdrawal of the objection under 35 U.S.C. §112 second paragraph is respectfully requested.

The Office Action rejects claim 1 under 35 U.S.C. §102(e) over Orlowski (U.S. Publication No. 2006/0043498) and claim 2 under 35 U.S.C. §103(a) over Orlowski in view of Ohata (U.S. Patent No. 4,556,895). These rejections are moot with respect to canceled claims 1 and 2, and respectfully traversed with respect to claims 3, 4 and 5.

Applicant respectfully submits that this application is a National Stage Application of PCT/FR2005/000720 which in turn claims priority to French Application No. 0403066 filed on March 25, 2004. The earliest priority date of Orlowski is August 24, 2004, five months after the earliest priority date of this application. Further, claims 3, 4 and 5 are supported by the priority document of the present application. See, page 3, lines 17-22; page 4, lines 1-7 of the enclosed translation of the priority document, for example. Thus, Orlowski is not prior art. Withdrawal of the rejections of claims 1 and 2 under 35 U.S.C. §102(e) and/or 35 U.S.C. §103 are respectfully solicited.

The Office Action rejects claims 1 and 2 under 35 U.S.C. §103(a) over Pfiester (U.S. Patent No. 5, 166, 084) in view of Currie et al. (U.S. Patent No. 5, 986, 291) further in view of Valone (U.S. Patent No. 5, 602, 439). This rejection is moot with respect to canceled claims 1 and 2 and respectfully traversed with respect to claims 3-5.

Regarding claims 3 and 5, the Office Action admits that Pfiester does not disclose, for a normally on NMOS transistor, the electron affinity of the source material is higher than the

channel material, as recited in claims 3 and 5, but asserts that Currie and Valone supply the missing subject matter. We disagree.

Currie describes a device, using a two-dimensional electron gas (Abstract). In a two-dimensional electron gas the carriers are electrons, so the device is a NMOS device. As would have been well known to one of ordinary skill, NMOS device comprises source 58 and drain 59 zones connected by a channel (Fig. 4). At C4/L46-52, Currie only discloses a decrease of the electron affinity in the channel near source zone and an increase of the electron affinity up to its maximum value (the electron affinity of the channel material) but does not disclose that source zone presents a lower or higher electron affinity than electron affinity of the channel. This decrease of the electron affinity within the channel is used to form the two-dimensional electron gas.

Currie does not make any disclosure concerning electron affinity of the drain compared to the source and the channel. Currie discloses at C8/L39-C9/L30-34 and C10/L20-21 that source and drain zones are realized at the same time. This procedure necessarily requires that the same materials and doping are used. Accordingly, Currie's source and drain zones have the same electron affinity (both higher or lower than the electron affinity of the channel).

Pfiester's drain and source materials are also identical. The source and drain are made from a Ge-Si layer 18 and doped in the same process (C3/L44-55). Thus, Pfiester and Currie have source and drain made of the same materials, the drain and source both have either a lower or higher electron affinity than the channel. Accordingly, Pfiester and Currie do not disclose or suggest that the source and drain materials, and electron affinities are different from each other. Accordingly, the combination of Pfiester and Currie would not have disclosed the subject matter of claims 3 and 5.

Valone discloses using a field emission electron emitter using diamond and conductive carbon. However, the field emission is into vacuum (col. 1 lines 13-22) so the electrons are not in any material with an electron affinity once emitted. Valone does not disclose a drain or channel material with a higher or lower electron affinity than the emitter. Combining Pfiester with Valone would not produce a transistor with source and drain of different materials and electron affinities. Accordingly, the combination of Pfiester, Currie and Valone would not have disclosed or suggested the subject matter recited in claims 3 and 5.

Regarding claims 4 and 5, the Office Action admits that Pfiester does not disclose a normally on PMOS transistor the upper level of the valence band of the source material is lower than the channel material, as recited in claims 4 and 5, but asserts that Currie and Valone supply the missing subject matter. We disagree.

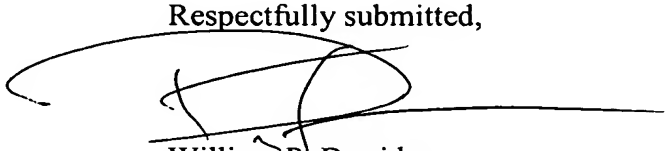
Currie is directed to an NMOS transistor but does not disclose any subject matter relating to PMOS transistors. Currie does not disclose the valence band of any material. Valone does not disclose any transistor or the valence band of any material. Thus, Pfiester, Currie and Valone, individually or in combination, would not have disclosed or suggested a PMOS transistor in which the upper level of the valence band of the source material is lower than the channel material, as recited in claims 4 and 5.

In view of the above, Pfiester Currie and Valone individually or in combination do not suggest or disclose the subject matter of claims 3-5. Withdrawal of the rejection of claims 3-5 under 35 U.S.C. §103(a) is respectfully solicited.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 3-5 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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